STATE OF ILLINOIS

ILLINOIS COMMERCE COMMISSION

Staff Report

RE: ICC Staff Workshops on Energy Efficiency and Demand Management Required by Commission Orders in Docket Nos. 07-0539 and 07-0540

December 12, 2008

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Disclaimer

The Workshops on Energy Efficiency and Demand Response ("EE/DR") were held pursuant to the Commission's Orders in Docket Nos. 07-0539 and 07-0540. The Commission's Orders in Docket Nos. 07-0539 and 07-0540 noted that "workshops will provide an excellent opportunity for Commission Staff, utilities and stakeholders to anticipate, learn about and address" various EE/DR issues. In order to facilitate free and open discussions within the EE/DR workshops, the Staff of the Illinois Commerce Commission made clear that statements made, positions taken, and documents and papers provided by the participants in these workshops are in the nature of settlement discussions and would not be used by or against any workshop participant in any litigation, including administrative proceedings before the Illinois Commerce Commission, the Federal Energy Regulatory Commission, and other federal, state, or local governmental authorities. Staff also made clear, however, that the Commission specified that "the outcome of these workshops shall be in the form of a Staff report, setting forth Staff's recommendations regarding what rules, if any, need to be developed." Thus, Staff listened carefully to workshop participants, presenters, and facilitators, and considered the input that they provided prior to writing this report. However, the report does not necessarily attempt to adopt the positions of the consensus or majority of the participants, presenters, and/or facilitators. While the report may summarize portions of presentations or comments, all recommendations contained in the report are solely those of the Staff. Finally, all errors and omissions can only be attributed to the author.

Acknowledgements

Staff thanks the workshop facilitators and presenters, whose names and bios are shown in Appendix A of this report. In addition, Staff thanks all the workshop participants, including representatives from: the Ameren Illinois Utilities; the Center for Neighborhood Technology; the Citizens Utility Board; the City of Chicago; Commonwealth Edison Company; the Department of Commerce and Economic Opportunity; the Illinois Attorney General; Illinois Industrial Energy Consumers; the Illinois Stakeholder Advisory Group's facilitator and advisor; the Mayor's Caucus; the Midwest Energy Efficiency Alliance; the Natural Resources Defense Council; and NICOR Gas. Finally, Staff thanks the Lawrence Berkeley National Laboratory ("LBNL") and the Regulatory Assistance Project ("RAP") for their grants of in-kind technical assistance.

Web Access

This report, along with PowerPoint® presentations and various other materials related to the Staff-led workshops can be found in electronic form by using the following link to the Commission's *Energy Efficiency and Demand Response* web site:

http://www.icc.illinois.gov/electricity/Energy%20Efficiency%20and%20Demand%20Response.aspx

Executive Summary

This document concerns Staff-led workshops on energy efficiency and demand response ("EE-DR") that were held in Chicago on October 16-17 and November 6, 2008, pursuant to Illinois Commerce Commission orders in Docket Nos. 07-0539 and 07-0540. It summarizes the outcome of those workshops and sets forth Staff's recommendations regarding what rules, if any, need to be developed to support the Commission's responsibilities under Section 12-103 of the Illinois Public Utilities Act ("Act") (220 ILCS 5/12-103).

Staff believes that the workshops were a success. Parties exchanged an abundance of relevant information through cogent presentations as well as open and courteous discussions. Technical assistance from Lawrence Berkeley National Laboratory ("LBNL") and the Regulatory Assistance Project ("RAP") greatly contributed to the workshops' success. Their support is gratefully acknowledged.

The workshop sessions consisted of a mix of presentations and facilitated discussion, both managed by Chuck Goldman, a Staff Scientist at LBNL, and Richard Sedano, a Director of RAP. The first two days of workshops concentrated on four important aspects in the regulation of EE-DR programs: evaluation monitoring and verification practices, reporting practices, issues in how and when to count savings, and benefit-cost screening. The last day of workshops considered two topics: how loan financing may contribute to the success of future EE-DR programs, and options for and alternatives to rules for regulating EE-DR programs. These discussions are not summarized in this executive summary but are summarized in the body of this report.

Staff's recommendations can be summarized as follows:

- Staff does not recommend a rulemaking at this time.

- Notwithstanding some potential benefits of a rule, Staff believes that the structure of EE-DR planning and evaluation is still in a developmental stage in Illinois. Staff and [perhaps] the various stakeholders are still on a learning curve, where opinions about how to implement and oversee the State's EE-DR mandate are still forming. It may not be prudent to lock in our current thinking on the subject in a rule.

- Over the last year, EE-DR issues have been successfully handled on a case-by-case basis, without a rule. The current stakeholder advisory process seems to be working relatively well as a vehicle for working out issues informally.

- A rule is clearly not essential, as about half the states that are active in EE-DR do not have EE-DR rules.

- If a rulemaking were to be considered in the future, Staff would recommend the following topics be discussed as possible issues for the rulemaking:

    - Guidelines for Plan Filings
    - Guidelines for Annual Reports
    - General guidelines for Measuring Energy Savings
    - General guidelines for Measuring Benefits and Costs
    - General guidelines for Allocating EE-DR Evaluation Budgets
    - Interpretations of various provisions found in Section 12-103 of the Act, particularly as they pertain to the above topics
    - Definition of a Process for Determining More Detailed Guidelines for Measuring Energy Savings, Benefits and Costs, and for Allocating EE-DR Evaluation Budgets

- Rules on the above topics have the potential to reduce future controversy and litigation in the planning, implementation, and evaluation stages of EE-DR programs. However, a rulemaking itself would be time consuming and possibly controversial, as would any subsequent proceeding to alter/modify the initial rule if the passage of time were to indicate that alteration/modification were necessary.

Staff looks forward to answering any questions that the Commission may have about this report.

I. Background

In November 2007, pursuant to Section 12-103 of the Illinois Public Utilities Act ("Act") (220 ILCS 5/12-103), Central Illinois Light Company d/b/a AmerenCILCO, Central Illinois Public Service Company d/b/a AmerenCIPS, and Illinois Power Company d/b/a AmerenIP (collectively, the Ameren Illinois Utilities ("AIU" or "Ameren")), Commonwealth Edison Company ("ComEd"), and the Illinois Department of Commerce and Economic Opportunity ("DCEO") filed petitions with the Illinois Commerce Commission ("Commission") requesting approval of their 2008-2010 Energy Efficiency and Demand Response ("EE-DR") Plans. While these matters were originally docketed as three separate cases, the DCEO docket was eventually severed and the appropriate documents from that case were placed in Docket Nos. 07-0539 (Ameren) and 07-0540 (ComEd).

In its February 6, 2008 orders in those two dockets, the Commission directed Staff to conduct workshops on various issues related to EE-DR programs, "including but not limited to standards regarding the accounting of the funds collected, the appropriate measure savings values, net-to-gross ratios, financial compliance, program information tracking and reporting, and related issues." Furthermore, the Commission directed Staff "to investigate and prepare a report, within the next thirty (30) days, regarding the availability of external funding to support a facilitated collaborative process and if such funding is available, to begin such a facilitated collaborative process as soon as reasonably possible." Finally, the Commission stated that "The outcome of these workshops shall be in the form of a Staff report, setting forth Staff's recommendations regarding what rules need to be developed." This is that report.

II. Facilitated Collaborative Process

At the beginning of March 2008, Staff informed the Commission that external funding to support a facilitated collaborative process was available, in the form of in-kind technical assistance from Lawrence Berkeley National Laboratory ("LBNL") and the Regulatory Assistance Project ("RAP"). Subsequently, Staff worked with Chuck Goldman, Staff Scientist at LBNL, and Richard Sedano, a Director of RAP, to develop a proposed agenda for the Staff workshops ordered by the Commission. In August 2008, Staff sought feedback on the proposed agenda from members of the Stakeholder Advisory Group ("SAG") that has been following developments in the EE-DR programs being implemented by ComEd, Ameren, and DCEO. The workshop agenda was finalized and scheduled for October 16-17 and November 6-7, 2008. The November 7 session was later dropped from the agenda. Messrs. Goldman and Sedano not only acted as discussion facilitators during the workshops, they also arranged expert speakers, listed further below.

III. Overview of the Workshops

The workshops were held in Chicago, in the Commission's main hearing room. The workshops were a mix of presentations and facilitated discussion. The topics covered were:

A. Evaluation Monitoring and Verification (EM&V) Practices
B. Reporting Practices
C. Counting Savings
D. Benefit Cost Screening
E. Financing and Leveraging Ratepayer Funded Energy Efficiency
F. Options for and Alternatives to Rules

In general, each topic was introduced by one or more presentations by Messrs. Goldman and Sedano or the other experts that they made available.[1] These other experts were:

- Steve Allenby, President, Allenby Associates, LLC
- Holly Andreozzi, Principal Consultant, Clean Energy Solutions, Inc.
- Tom Eckman, Conservation Manager, Northwest Power and Conservation Council
- Joel Freehling, Manager of Triple Bottom Line Innovations, ShoreBank
- Mike Messenger, Senior Principal Consultant, Itron
- Nancy O'Brien, Program Manager of Energy Finance Solutions, Wisconsin Energy Conservation Corporation
- Snuller Price, Partner, Energy and Environmental Economics, Inc.
- Mike Sherman, Director of Energy Efficiency Programs, Massachusetts Department of Energy Resources
- Mike Wickenden, Energy Efficiency Utility Contract Administrator, State of Vermont Public Service Board

Following the presentations, Rich Sedano and Chuck Goldman moderated discussions on each topic. Staff in attendance found the presentations and discussions illuminating and invaluable for purposes of preparing this report.

[1] Biographical information on the speakers is included in Appendix A to this report, while their presentation slides, are available on the ICC's web site: http://www.icc.illinois.gov/electricity/Energy%20Efficiency%20and%20Demand%20Response.aspx

IV. Discussion of Each Workshop Topic

A. Evaluation Monitoring and Verification (EM&V) Practices

The first presentation was by Mike Messenger, Senior Principal Consultant at Itron, a firm active in EE-DR program EM&V. He described the five generic governance frameworks that are used to evaluating energy efficiency programs: (1) Utility Lead; (2) Regulatory Lead; (3) Appointed Advisory Board Lead; (4) Collaborative of Key Stakeholders Lead; and (5) State Energy Agency Lead. He also described six evaluation principles to guide development of evaluation management and governance structures, and argued the relative strengths and weaknesses of each governance structure vis-à-vis the evaluation principles. He also discussed some of the issues involved in setting priorities for load impact vs. process (and market) evaluations.

Tom Eckman, Conservation Manager at Northwest Power and Conservation Council, next discussed the "Development of EM&V Protocols and a Standardized Savings System for Tracking Energy Efficiency Resources: A Pacific Northwest case study." He explained how the Pacific Northwest is attempting to "standardize" savings estimation and economic valuation of many utilities' EE programs located in a multi-state area through, among other things, an elaborate online planning, tracking and reporting system funded by the Bonneville Power Administration.

Mike Wickenden, Energy Efficiency Utility Contract Administrator at the State of Vermont Public Service Board, presented the Vermont approach to managing a state EM&V process. The presentation was an interesting study of the EM&V cycle. Notably, the Vermont EE programs are not planned and implemented by investor-owned utilities.

Mike Sherman, Director of Energy Efficiency Programs at the Massachusetts Department of Energy Resources, presented the Massachusetts approach to the EM&V

process. Massachusetts is a state with more than 20 continuous years in energy efficiency. Originally, each utility in Massachusetts calculated its own algorithms and savings values for all EE measures, but the Massachusetts Department of Energy Resources has now developed a single database, allowing comparisons at the measure level of gross savings, measure lives, operating hours, coincidence factors, persistence, and other parameters. Mr. Sherman explained the process used to establish and update the database as new evaluation studies are completed and as new information is gathered. The common database has also facilitated the development of a common screening tool now in use by all program administrators. With respect to "free riders" and "net-to-gross" determinations, Mr. Sherman opined that studies are expensive, time-consuming and often imprecise, and that attempting to assess customers' intentions retrospectively, and sometimes retroactively, even with nonparticipant control groups, is fraught with opportunities for uncertainty and error.

Mike Messenger returned to provide a list of controversial EM&V issues based on experience in other states, a case study of how measurement controversies can spill over into program design and other policy areas, and suggestions of possible ways to reduce controversy.

Tom Eckman returned to provide the resource planner's perspective about "What EM&V Results Matter?"

B. Reporting Practices

Mike Wickenden described the comprehensiveness of "Vermont's Reporting Practices." In addition to various "financial reports," Vermont's utilities are also required to file the following "program reports":

- Monthly (February, April, May, July, August, October, November, and December)
- Quarterly (1st, 2nd, 3rd)
- Annual Savings Claim (April 1 for Previous Year)
- Annual Report Executive Summary (May Public Use)
- Annual Report with Verified Savings (October for Previous Year)
- Annual Plan (November 1 for Next Year)

Mike Sherman described the Massachusetts approach to reporting. This includes an annual report to the Department of Public Utilities, issued July-August for the prior year, which includes detailed information on energy efficiency program expenditures, goals, performance incentives, and evaluations. There are also reports to the Department of Energy Resources, showing all measure level savings data and cost data, which is used in the process of updating the statewide database, referenced earlier.

Mike Messenger described reporting requirements in California and Wisconsin. California reporting involves an annual report, quarterly reports, and ex-post evaluation reports, while Wisconsin reporting involves quarterly, semiannual and annual impact evaluation reports, benefit/cost analysis reports, economic development/benefits reports, non-energy benefits reports, marketing evaluation reports, as well as education and training evaluation reports. Additional details on the content of these reports can be found in the slides to Mr. Messenger's presentation.

C. Counting Savings

Mike Messenger discussed various issues in counting energy savings. For example:

- Are savings counted as of the point when installations are first reported or at the point when installations are verified?
- How much time is needed to prepare reports of savings?
- To what extent do you allow "banking" of saving between years?
- How do you balance equity and portfolio concerns with the desire to hit annual savings goals?

Mike Wickenden discussed Vermont's approach to counting savings. He pointed out the significant difference between when "prescriptive" program savings are counted and when "custom" program savings are counted. The former usually count as of the date of a customer check, date of a vendor paid invoice, or the date of a store inventory report. For custom programs, however, savings are generally not counted until there is an on-site visit to verify the installation of efficiency measures. Mike listed the following as significant issues in counting savings:

- Establishing baselines
- Project Classification: Retrofit versus Market Opportunity & New Construction
- Operational Variables: Operating Hours; Vacation and Maintenance Issues
- Persistence – Shortening of "engineered" measure life
- Free-riders and Spillover

D. Benefit Cost Screening

Snuller Price, a Partner of the firm, Energy and Environmental Economics, Inc., presented a "Summary of Energy Efficiency Cost-effectiveness Issues." This presentation included: definitions of the various cost-effectiveness tests in use; a survey of which tests are used by the various state jurisdictions; a discussion of where

cost-effectiveness tests should be applied (at the measure, program, and/or portfolio levels); issues in the calculation of avoided costs, discount rates, how net-to-gross ratios and free-riders are typically applied to cost-effectiveness tests; issues in incorporating emissions savings and renewable portfolio standards in cost-effectiveness tests; and a list of non-energy benefits that could be considered in the context of some cost-effectiveness tests.

E. Financing and Leveraging Ratepayer Funded Energy Efficiency

Nancy O'Brien, Program Manager of Energy Finance Solutions at Wisconsin Energy Conservation Corporation, spoke about "The Value of Financing in Program Design." She described how a non-profit organization like hers can work with utilities, state agencies and energy service companies ("ESCOs") to provide third party administration of customized incentive programs. Such administrative services might include coordinating financing for residential home improvements and income verification for low-income households. She noted several benefits of this type of program structure, such as eliminating the utility and ratepayers' risk of defaulted loans and eliminating the need to develop a loan processing infrastructure. She also discussed various considerations in the choice between rebates and financing and in the design of incentive programs.

Steve Allenby, President of Allenby Associates, LLC, spoke about "Financing Energy Efficiency for Large Customers." Noting that the justification for utility-sponsored EE-DR programs is generally related to removing "barriers," he argued that it is important to distinguish between two questions:

(1) Would financing remove a barrier to implementing EE?

(2) What are the barriers to financing an EE project?

Mr. Allenby noted several solutions to financing barriers:

- Interest rate buy-down
- Liberal terms and conditions
- Qualified sales people
- Streamline the process
- Public support/pressure
- Off balance sheet financing

He strongly emphasized the importance and the difficulty of obtaining qualified sales people, who could speak to both engineering and financing issues. He also talked at length on the concept of off-balance sheet financing (where assets and liabilities are kept off the company's balance sheet).

Holly Andreozzi, Principal Consultant of Clean Energy Solutions, Inc., spoke about the Cambridge Energy Alliance ("CEA"), a $100 million initiative to implement massive energy efficiency and clean energy generation throughout the city of Cambridge, Massachusetts. The CEA is a collaboration between the City of Cambridge, Cambridge Health Alliance, and the Henry P. Kendall Foundation, which:

- Provides a full range of engineering, installation, project management, monitoring, & financial services;
- Provides a stable of private energy service companies and contractors selected competitively to perform energy assessments and implement measures;
- Provides independent engineers to monitor and verify the work of the ESCOs and contractors; and

- Provides, in most instances, loans with payments that are less than or equal to their monthly savings, and enables consumers to take measures with longer paybacks (e.g., combined heat & power and solar).

According to Ms. Andreozzi, the CEA serves basically all market segments (single-family and multi-family residential, small and large commercial and industrial). The CEA facilitates financing for all projects, but it also utilizes existing utility incentives (rebates, loans) when available, incorporates tax incentives if applicable, and anticipates future buy-downs of interest rates for certain market segments.

Joel Freehling, Manager of Triple Bottom Line Innovations at ShoreBank (in Chicago), answered the question, "What Role Can Financing Play in Energy Efficiency Programs?" The term "Triple Bottom Line" refers to three overarching goals of Mr. Freehling's lending program: (1) profitability, (2) community development, and (3) environmental benefits. An example of ShoreBank's Triple Bottom Line focus is the bank's Homeowners' Energy Conservation Program, which offers to homeowners who are already seeking loans to finance home-improvement projects: a free energy audit; financing for 100% of any incremental costs associated with energy efficiency; and a $500 voucher towards an ENERGY STAR® qualified refrigerator (with recycling of old one) if borrowers spend $2000 on EE upgrades. Mr. Freehling believes this type of program makes sense because:

- Customers generally aren't focused on energy efficiency
- It counters misperceptions about the costs of EE
- It sidesteps contractors who rarely explain efficiency options
- It reduces the perceived risks of gouging by contractors

Mr. Freehling also opined that financing may be a necessary, but is not a sufficient element to successful EE programs. However, adding financing to EE program design provides consumers with a "no money down" option and can entice them with below-market rates. Furthermore, where a bank is involved in promoting EE projects, financing can help convince homeowners that EE actually makes financial sense. To entice banks to participate in EE-DR programs, he suggests that utilities or program administrators offer access to deposits/liquidity, provide partial guarantees, become a steady referral source, provide a product catering to the bank's current customers, and offer added features to an existing product.

F. Options for and Alternatives to Rules

In the final workshop session, Richard Sedano of RAP presented "Energy Efficiency Policy Rules: Options and Alternatives." The presentation considered the scope and structure of EE-DR policy rules in other states and set forth issues for Illinois to consider. Mr. Sedano noted there are around twenty states with utilities that are active in EE-DR programs, and about half of those states have adopted EE-DR policy rules.

As shown in the table, below, for eight selected states, such rules variably include: descriptions of overarching policy goals, descriptions of the roles and responsibilities of utilities and program implementers, requirements for EE-DR plan contents and procedures, guideline for stakeholder processes, reporting requirements, guidelines on the use of program funds, guidelines for the preparation of market potential studies, guidelines on the cost-effectiveness tests that should be used,

guidelines for evaluation, measurement and verification activities, guidelines on cost recovery, and guidelines on utility incentives and/or decoupling.

Topic	AZ	AR	CA	CO	IA	MN	NM	WA
Overarching policy goals	✓	✓	✓	✓			✓	
Roles and responsibilities of administrator & implementers	✓	✓	✓	✓			✓	
EE Program Plans: content and procedural requirements	✓	✓		✓	✓	✓	✓	✓
EE Program Plans: stakeholder process			✓		✓	✓	✓	✓
Interim reporting requirements	✓	✓	✓	✓	✓	✓	✓	✓
Use of EE Program Funds	✓		✓				✓	
Market potential studies	✓	✓			✓		✓	✓
Cost-effectiveness tests	✓	✓	✓		✓	✓	✓	✓
Evaluation, measurement & verification	✓	✓	✓				✓	
Cost-recovery	✓	✓		✓	✓	✓	✓	
Utility incentives and/or decoupling		✓	✓				✓	

California presents a unique example, where the state has adopted an extensive rule, but also adopts policies applicable to multiple utilities through non-rulemaking proceedings. Its so-called “Standard Practice Manual” is an example of detailed policy positions that are updated periodically and apply across multiple utilities, even though the manual is not the product of a rulemaking. Such an example is arguably of limited applicability to Illinois, where policies of general applicability across multiple utilities can only be promulgated through rulemakings.

Mr. Sedano also addressed the question, “When are rules a good idea?” In this regard, he noted the following considerations:

- When the regulatory culture typically is to rely on rules.
- When energy efficiency is not second nature or seems complex.
- When resolving generic issues once-and-for-all is valuable.
- When standardization and consistency are considered valuable.
- When connecting with the legislature is important.

Above all, Mr. Sedano stressed these “fundamentals”:

- Rules should serve the needs of the stakeholders, especially the commission:
    - If regulation can be more efficient with rules, rules look good.
    - If commission foresees chaos without rules, rules look very good.
- Rules should be as timeless as possible.
- Rules should start where statutes end.
- Rules are especially useful concerning process matters (like deadlines and report structure).
- Rules should be reliable but not unchangeable.

The discussion that followed Mr. Sedano’s presentation also informed the Staff about the concerns of various Illinois stakeholders. There seemed to be an acknowledgement that, so far, many of the issues that a rule could have addressed have been successfully addressed on a case-by-case basis, instead. Nevertheless, stakeholders also recognize that there are still unresolved issues that will have to be addressed in the future. There was not much clarity in whether these unresolved issues should be addressed immediately through rules or whether parties should continue, at least for the time being, to rely on a case-by-case approach.

Stakeholders present at the last workshop were also invited to provide written comments. Written comments were received from two parties: Ameren and ComEd. By permission of the companies, those written comments were posted to the Commission’s website.

According to Ameren’s comments,

> Ameren Illinois Utilities do not believe a rule-making is desirable. It is our opinion that the Stakeholder’s Advisory Group has provided a meaningful

> forum to address Illinois program issues in a timely and cooperative manner. We envision the pursuit and implementation of energy efficiency and demand response programs as a fluid process, driven by changing technologies and consumer needs. A prescriptive rule may hamper the development of such programs. Therefore, we intend to continue working in collaboration with the Stakeholder's Advisory Group and the Illinois Commerce Commission Staff to address issues referenced above.

According to ComEd's comments,

> It is ComEd's position that a rulemaking concerning energy efficiency and demand response is not necessary at this point in time. … Given that the SAG is in place to address issues or concerns as they arise and has been successful addressing these issues to date, it is unclear how any new rules would help augment the current process. … [A]ny rulemaking proceedings that begin prior to the conclusion of the Smart Grid collaborative process would be premature and subject to change.

V. A Synopsis of Staff's Conclusions and Recommendations

- Staff does not recommend a rulemaking at this time.

- Notwithstanding some potential benefits of a rule, Staff believes that the structure of EE-DR planning and evaluation is still in a developmental stage in Illinois. Staff and [perhaps] the various stakeholders are still on a learning curve, where opinions about how to implement and oversee the State's EE-DR mandate are still forming. It may not be prudent to lock in our current thinking on the subject in a rule.

- Over the last year, EE-DR issues have been successfully handled on a case-by-case basis, without a rule. The current stakeholder advisory process seems to be working relatively well as a vehicle for working out issues informally.

- A rule is clearly not essential, as about half the states that are active in EE-DR do not have EE-DR rules.

- If a rulemaking were to be considered in the future, Staff would recommend the following topics be discussed as possible issues for the rulemaking:
    - Guidelines for Plan Filings
    - Guidelines for Annual Reports
    - General guidelines for Measuring Energy Savings
    - General guidelines for Measuring Benefits and Costs
    - General guidelines for Allocating EE-DR Evaluation Budgets
    - Interpretations of various provisions found in Section 12-103 of the Act, particularly as they pertain to the above topics
    - Definition of a Process for Determining More Detailed Guidelines for Measuring Energy Savings, Benefits and Costs, and for Allocating EE-DR Evaluation Budgets
- Rules on the above topics have the potential to reduce future controversy and litigation in the planning, implementation, and evaluation stages of EE-DR programs. However, a rulemaking itself would be time consuming and possibly controversial, as would any subsequent proceeding to alter/modify the initial rule if the passage of time were to indicate that alteration/modification were necessary.

These conclusions and recommendations are explained in more detail in the remaining sections of this report.

VI. Arguments For and Against Initiating a Rulemaking

A. Addressing Complexities of Plan Approval in the Limited Time Frame Permitted by the Act

One of the major problems faced by Staff in Docket Nos. 07-0539 and 07-0540 was the extremely limited time frame allowed by the Act to evaluate thousands of

assumptions and somewhat complex computer models used to estimate the savings, peak demand impacts, costs, economic lifetime, and cost-effectiveness of energy efficiency measures and programs that were being presented in support of the EE-DR plans. Within the schedule required by the Act, Staff found that there was not enough time to examine these assumptions and models as thoroughly as Staff would have preferred. Staff believes that a rule could be used to define a separate process, through which more detailed guidelines for projecting energy savings and EE-DR program benefits and costs can be developed, subjected to stakeholder review, and, if necessary, litigated, and then used in the context of EE-DR plan proceedings.

However, through the stakeholder advisory process, Staff has found the utilities very willing to cooperate and work with stakeholders. Thus, Staff is confident that the utilities would be willing to voluntarily provide a significant amount of such planning assumptions and models well prior to the official filing of their next three-year plan. Staff believes that three months prior would be adequate. In any event, whether it is through separate docketed proceedings or through informal means, such processes could be pursued without a rule. A rule would merely add predictable structure to such processes, but at an additional up-front cost of resources and a loss of flexibility.

B. Facilitating Pre-approval of Assumptions and Methods to be Used in Later Determinations of Whether the Utilities and DCEO Met the Energy Savings Requirements of the Act

As noted above, one of the major problems faced by Staff in Docket Nos. 07-0539 and 07-0540 was the extremely limited time frame in which Staff was to evaluate thousands of assumptions and somewhat complex computer models. These assumptions and models were introduced by the utilities and DCEO, not just for

purposes of supporting their EE-DR plans (as noted in the previous sub-section), but also for purposes of obtaining regulatory pre-approval of many of the underlying parameters and methods that would be used in later determinations of whether the utilities and DCEO had met the energy savings requirements of the Act. That second purpose often fell under the rubric of "deemed" values.[2]

On the one hand, Staff considered it unnecessary during Docket Nos. 07-0539 and 07-0540 for the Commission to be forced into making decisions, with insufficient review, that it could make at a later time with significantly more opportunity for study. On the other hand, Staff sees merit in, and is not opposed to, the concept of determining some assumptions and methods in advance of evaluation proceedings. Toward this end, Staff believes that a rule could be used to define a separate process through which some assumptions and some detailed guidelines for estimating energy savings can be developed, subjected to stakeholder review, and, if necessary, litigated, and then used in the context of EE-DR evaluation proceedings. This would be the same process discussed in subsection A, above.

[2] Section 12-103(f)(7) of the Act states that the utility's plan must "Provide for an annual independent evaluation of the performance of the cost-effectiveness of the utility's portfolio of measures and the Department's portfolio of measures, as well as a full review of the 3-year results of the broader net program impacts and, to the extent practical, for adjustment of the measures on a going-forward basis as a result of the evaluations." In addition, Section 12-103(i) of the Act provides for periodic determinations of whether the "electric utility fails to meet the efficiency standard specified in subsection (b)," and imposes penalties on the utility and other potential remedies for such failures. Similarly, Section 12-103(j) of the Act provides for periodic determinations of whether "the Department fails to implement the Department's share of energy efficiency measures required by the standards in subsection (b)," and provides that "the Illinois Power Agency may assume responsibility for and control of the Department's share of the required energy efficiency measures" in the event of such a failure. While 12-103(f)(7) on the one hand and 12-103 (i) and (j) on the other are not inextricably connected in the sense that the Section 12-103(f)(7) "independent evaluations" need not be the only basis upon which the Commission would make findings under Sections 12-103 (i) and (j). However, for all intents and purposes, Staff has become more convinced that the Section 12-103(f)(7) independent evaluations, in whole or in part, will become a focal point for Section 12-103 (i) and (j) determinations.

However, also as noted above, the utilities have been very willing to cooperate and work with stakeholders through the Stakeholder Advisory Group ("SAG"). Thus, Staff is confident that the utilities would be willing to voluntarily provide a significant amount of documentation in support of values that they would seek to have "deemed," well prior to the official filing of their next three-year plans. In the alternative, the utilities could petition the Commission to deem values in docketed proceedings that would be separate from the planning dockets. Either or both processes could be pursued without a rule. A rule would merely add predictable structure to such processes, but at an additional up-front cost of resources and a loss of flexibility.

C. Codifying ICC Interpretations of the Act

In addition to the type of technical matters described above, Staff believes that a rule could help minimize the need to litigate certain issues during each plan evaluation case. This pertains especially to how certain provisions of the Act should be interpreted. The Commission already dealt with many of these provisions in Docket Nos. 07-0539 and 07-0540. Some of the provisions addressed in those dockets can be further clarified and codified in the form of a Commission rule, as could provisions that have not yet been addressed by the Commission. The goal would be to avoid future confusion and achieve a level of consistency between the utilities. On the other hand, it is Staff's view that approaching these issues on a case-by-case basis, rather than through a rulemaking, will continue to result in reasonable policies.

Examples of the type of matters that could be resolved through rules include:

- Guidelines on converting the percentage goals specified in Section 12-103(b) of the Act into MWH goals

- Guidelines on converting the percentage goals specified in Section 12-103(c) of the Act into MW goals

- Guidelines on converting the percentage budget constraints specified in Section 12-103(d) of the Act into total dollar budget constraints.

- Guidelines on "annualizing" energy saving and on determining the time period(s) within which MWH savings are to be counted

- Guidelines on what the Commission would consider "breakthrough equipment and devices," as that term is used in Section 12-103(g) of the Act, but is not defined in the law.

D. Imposing Minimum Standards for Filing EE-DR Plans and Reports

To facilitate the initial gathering of information from utilities when they file their EE-DR plans and reports, a rule could be of assistance by specifying exactly what should be included in such plans and reports. That might reduce the degree to which the substantive review of plans and reports is delayed by the necessity of issuing data requests for additional information. However, as noted above, Staff has found the utilities very willing to cooperate and work with Staff and other parties through the stakeholder advisory process. Thus, Staff is confident that the utilities would be willing to voluntarily provide whatever information parties wish to see in the plan filings and reports, within the bounds of reasonableness. To the extent to which the utilities would not be forthcoming with such information in the context of docketed proceedings, disputes can be resolved by administrative law judges.

E. Is the Time Right to Begin a Rulemaking?

Notwithstanding the various ways, described above, in which a rule might be able to improve upon the regulatory process in the area of EE-DR programs, Staff also

believes that establishing a rule at this time has its drawbacks and can hardly be considered essential. First, Illinois in general and the Commission in particular are relatively new to large-scale EE-DR programs. Staff and [perhaps] the various stakeholders are still on a learning curve, where opinions about how to implement and oversee the State's EE-DR mandate are still forming. It may not be prudent to recommend that the Commission lock-in our current thinking on the subject in a more-or-less inflexible rule. It may be more prudent to allow opinions to more fully gestate.

Second, it should be remembered that, over the last year, EE-DR issues have been successfully handled on a case-by-case basis, without a rule. In fact, many of the advantages of a rule, described above, can still be obtained without a rule, although in some cases with less certainty. For example, awareness of the time problems associated with the EE-DR planning dockets may encourage the utilities themselves to seek (through petition) the type of processes described in subsections A through D, above. Thus, an argument can be made to leave well enough alone until the need for and desired content of rules become clearer. In fact, Staff finds this argument compelling and therefore recommends against initiating a rulemaking at this time.

VII. Measuring Energy Savings, Benefits and Costs

In Staff's view, the most technical and daunting aspect of the Commission's oversight of EE-DR is in the area of program evaluation and in integrating program evaluation into future program planning. Thus, the remainder of this report goes into greater depth concerning Staff's concept of a process for determining more detailed guidelines for measuring energy savings, and benefits and costs, for conducting "impact

evaluations" along with "process" and "market" studies, and for managing evaluation contracts.

Regulatory oversight of EE-DR programs and their evaluation should allow the Commission to make sound conclusions about the effectiveness of such programs. Staff accepts that, to a significant degree, the energy saved by replacing one particular technology with another technology (and using it in a specified manner) can be estimated to a high degree of precision, in many instances. However, it is Staff's firm belief that "actual" energy savings arising from EE-DR programs can never be known and will never be known. A primary obstacle to accurately establishing energy savings is the impossibility of measuring what consumers will do or would have done in the absence of EE-DR program implementation. This is basically the problem of estimating "free rider effects," "spillover effects," and their combined effects, often summarized as a "net-to-gross ratio." More generally speaking, it is the human element (not the technical element) that probably plays the most havoc with the process of making both before-the-fact projections and after-the-fact estimations of energy savings attributable to EE-DR programs.

While actual energy savings arising from EE-DR programs can never be known, it is still necessary to judge the expected efficacy of these EE-DR programs (both when evaluating EE-DR plans, and when evaluating their purported results). But, in addition to accepting that actual energy savings arising from EE-DR programs will never be known, Staff has also accepted that the concept of getting closer and closer to accurate estimation of those energy savings with more and more study, while productive, is likely to be an uphill battle, a process of decreasing marginal returns to effort, and a possible

waste of resources better spent on more tangible goods and services. Furthermore, many of the factors that one might attempt to measure through more and more study are apt to be largely out of the control of the utilities and DCEO. Hence, the risk imposed on these entities of being subjected to post-implementation evaluations of uncertain and uncontrollable factors is unlikely to incentivize them to improve upon any element of EE-DR program performance. Rather, it may only lead to resources being wasted on disputing after-the-fact findings concerning these highly uncertain and uncontrollable factors.

To minimize such waste and risk, Staff has considered the potential advantages of defining a fair and rational process that would be used:

(A) To produce reasonable unbiased estimates of key assumptions and reasonable methods for applying those assumptions to the calculation of energy savings and net benefits;

(B) To produce those estimates and methods prior to their use in EE-DR plan and evaluation proceedings;

(C) To update those estimates and methods on a periodic basis; and

(D) Where such estimates and methods cannot or should not be reasonably established prior to their use in EE-DR plan and evaluation proceedings, to at least establish guidelines for making such determinations.

Specifically, Staff envisions a process that would first utilize the services of an impartial consultant to develop a technical reference manual for conducting benefit-cost studies and energy savings analyses. An ancillary component of such a manual would be a comprehensive electronic database that could be used with commercially-available software, which would be capable of storing assumptions and data useful for forecasting

or estimating energy savings, net benefits, and other key information about EE-DR measures, programs, and portfolios that are or may be proposed or implemented by the utilities and DCEO.[3] This manual would also include documentation, indicating the source of all assumptions, parameter values, formulas, and algorithms.

Perhaps most importantly, for purposes of making after-the-fact determinations of whether the utilities and DCEO meet the energy savings requirements of the Act, the manual would indicate:

(1) Which of the assumptions and methods should be settled upon by the Commission before or during plan approval ("deemed")[4];

(2) Which of the assumptions and methods should ***not*** be settled upon before or during plan approval, but should instead be measured or estimated during or after program implementation; and

(3) Guidelines that can be utilized by program evaluators for measuring and/or estimating values for those assumptions that (a) have not yet been determined or (b) should ***not*** be deemed but should instead be measured or estimated during or after program implementation.

Ideally, the manual and its ancillary database would be non-proprietary and would not contain information considered confidential. In other words, the goal would be to make it as "transparent" as possible. Following the completion of the manual, Staff envisions a period of review by interested parties (such as the Staff, utilities,

[3] The computer files may also include information on the consultant's view of the stochastic nature of its various assumptions, including a description of its probability distribution and of the parameters of such distribution, and have the ability to perform risk analyses. However, it would be Staff's expectation that, at first, the program could be useful in "bare bones" form, with additional functionality, such as this, being added over time.

[4] While Staff has definite ideas about what type of assumptions and methods would be suitable for "deeming" (e.g., "net-to-gross ratios"), Staff is reticent about specifying them in advance (e.g., in a rule). We would prefer to retain a more flexible approach, whereby ***what*** to deem (let alone what values to deem) would be determined on a tri-annual basis.

DCEO, and other stakeholders). The first stage of that review might be an informal and cooperative process, in order to help detect possible errors and resolve issues prior to formal Commission review.

There could also be a second stage, which would include formal Commission review, where the Staff would anticipate testimony supporting the manual and the database by one or more of the consultants involved in its design, development, and/or testing. Other interested parties would also have an opportunity to be heard by the Commission. The Commission would then determine the extent to which the manual and database could be pre-approved for use in specific future planning and/or evaluation proceedings, perhaps committing to a presumption of reasonableness if they were later used by a party in such future proceedings. Given the relatively brief amount of time allotted in the Act for Commission review of EE-DR plans, Staff would recommend that the above-described process be timed in order to culminate at least one month in advance of EE-DR plan filings.

In Staff's view, while the consultant for the above-outlined job could be retained either by the Commission or the utilities, the project should be funded by utility revenues from their EE-DR cost-recovery riders. At this time, Staff takes no position concerning whether the funding for the manual and database should fall within the total evaluation spending limits specified in the Act (i.e., no more than 3% of the total EE-DR budget). However, whether due to this funding limitation or merely to time constraints, it is conceivable that the project will not be brought to fruition in time to be used in the next three-year EE-DR plan filings (due to be filed November 15, 2010), unless careful planning and diligence overcomes this potential problem. For instance, the product may

begin as a relatively simple database with a modest sketch of how to employ those assumptions to compute energy savings and/or net benefits, but it could be modified and improved over time to include much greater functionality.

It is currently unclear to Staff if and how this concept can apply to the evaluation of programs currently being implemented pursuant to the first three-years plans approved for the utilities and DCEO. Simply put, the time for "deeming" things associated with that plan may have come and gone. The manual and database will take time to produce and is unlikely to be available for many months. On the other hand, it may be possible, sometime between now and the end of the first three year plans' implementation, to "quasi-deem" things that can be applied to those first three years -- in part, retroactively, and in the remaining part, prospectively.

VIII. Impact versus Process and Market Evaluations

Staff understands that "evaluation" of EE-DR programs is a broad concept, covering not just "impact" evaluation (e.g., estimation of energy savings), but also "process" evaluation (e.g., assessments of the management of the programs) and "market" evaluation (e.g., studies of the underlying markets that the programs are intended to influence). Notwithstanding the fact that these so-called impact, process, and market elements of EE-DR program evaluation are intertwined, so far in this report we have been focusing on matters of impact evaluation only. That focus is justified because we believe the Commission's primary role in EE-DR is to enforce the Act's EE-DR standards which are imposed on the utilities and DCEO. That is, the utilities and DCEO are required to assess the underlying market and then develop and manage their

programs, and achieve certain results. The Commission is required to determine if the utilities and DCEO have accomplished those tasks.

However, Staff concedes that process and market evaluations are valid pursuits and has no desire to eliminate them as a part of the overall evaluation process. In addition, Staff believes that there may be synergies between performing these different aspects of evaluation together, as part of a comprehensive evaluation strategy. Similar synergies undoubtedly exist between performing evaluations of the Ameren, ComEd, and DCEO programs, and between performing such evaluations and the creation of the technical reference manuals and databases described above. Thus, Staff would recommend that, in order to take advantage of the above-mentioned synergies:

- The implementation of impact, process, and market evaluation be managed under single three-year contracts;
- If possible, the evaluations of Ameren, ComEd, and DCEO be managed under a single contract; and
- If possible, such evaluations also include the creation of the technical reference manuals and databases described further above, which would specify:
    (1) Which of the assumptions and methods should be settled upon by the Commission before or during plan approval ("deemed");
    (2) Which of the assumptions and methods should ***not*** be settled upon before or during plan approval, but should instead be measured or estimated during or after program implementation; and
    (3) Guidelines that can be utilized by program evaluators for measuring and/or estimating values for those assumptions that (a) have not yet been determined or (b) should ***not*** be deemed, but should instead be measured or estimated during or after program implementation.

IX. The Management of Evaluation Contracts

Section 12-103(f)(7) of the Act requires each three-year EE-DR plan filed by the utilities to

> Provide for an annual independent evaluation of the performance of the cost-effectiveness of the utility's portfolio of measures and the Department's portfolio of measures, as well as a full review of the 3-year results of the broader net program impacts and, to the extent practical, for adjustment of the measures on a going-forward basis as a result of the evaluations. The resources dedicated to evaluation shall not exceed 3% of portfolio resources in any given year.

In its Order in Docket Nos. 07-0539 and 07-0540, the Commission rejected the utilities' proposals to hire their own evaluators. The Commission instead directed the Staff to contract for such EE-DR program evaluators. In petitions for rehearing, the utilities and Staff raised a concern that the Commission, as a State agency, would have difficulty hiring evaluation firms in an expeditious time frame, due to Illinois Procurement Code strictures. In order to facilitate a more timely contracting process, the Commission found that the utilities could contract with their own evaluators. However, in order to maintain independence, the Commission further ordered that any such contract "shall provide that this Commission has the right to: approve or reject the contract; direct [the utility] to terminate the evaluator, if the Commission determines that the evaluator is unable or unwilling to provide an independent evaluation; and approve any action by the utility that would result in termination of the evaluator during the term of the contract."

As it turns out, contracting for evaluation contractors by the utilities was not concluded in the expeditious time frame originally contemplated in the above-mentioned petitions for rehearing. One of the primary reasons for the delay, in Staff's view, was the difficulty of specifying the work required of such contractors. This difficultly led the

utilities, acting on the advice of the SAG, to hire a pair of consultants to help compose the RFPs for the ultimate EE-DR program evaluators. This process took considerable time. While this may have been a prudent strategy for developing the initial RFPs for the initial EE-DR program evaluators, Staff does not anticipate it will be necessary in the future.

In any event, it is Staff's view that, in the future, DCEO and/or the utilities or just the Commission Staff could manage EE-DR program evaluator contracts, subject to Commission oversight in order to maintain the type of independence required by the Act. Arguably, from the standpoint of ensuring independence, the Commission Staff may be the better choice, although others may disagree. However, Staff is not opposed to maintaining the status quo, where the utilities listen to the advice of the SAG and hire the evaluators, subject to the oversight of the Commission. As Staff learned in the workshops, this is a common management structure for EE-DR program evaluation among the States (more common than the management being concentrated on commission staffs). Furthermore, if the Staff and other stakeholders are given adequate access to the evaluators, and are given ample opportunity to both give and receive feedback, there will be no surprises when official reports are distributed and docketed proceedings are initiated.

Appendix A: Biographical info on facilitators and speakers

Steve Allenby

Steve Allenby is President of Allenby Associates, LLC. He has been in the energy field for over 26 years. He worked for 14 years for an investor-owned utility in the Northeast, the last 6 of which as Senior VP of Operations and Marketing, and President of the utility's unregulated energy services subsidiary. Steve has developed considerable expertise in the development and financing of the federal energy efficiency and renewable market. He has written 3 reports for ESource dealing with federal energy efficiency and utility privatization. On behalf of the Edison Electric Institute (EEI), Steve was a principal drafter of a model energy efficiency services agreement between the Edison Electric Institute and the Department of Defense.

Steve is the Chair of the Biomass Energy Resource Center (www.biomasscenter.org), a member of the Northern Forest Alliance Steering Committee, a member of the Efficiency Vermont Advisory Board and a member of the Vermont Public Television Board of Directors. Steve and his wife, Nancy, have three grown sons and live in Proctor, Vermont. Steve enjoys helping coach the local high school basketball team, being a youth group leader with Nancy and sailing and kayaking on Lake George.

Holly Andreozzi

Holly Andreozzi is a Principal Consultant at Clean Energy Solutions, Inc. (CESI), formed in 2000 to advise municipalities, utilities, government agencies, housing organizations and financial organizations on energy efficiency program design and its integration with renewable technologies..

She has been a manager and owner of financial leasing firms for the past fifteen years. For the Cambridge Energy Alliance, Ms. Andreozzi has been facilitating the effort to bring a multi-tiered energy financing program for residents, businesses, and institutions in the City. She is arranging the financing of the largest solar project in Massachusetts for Boston Community Capital. Ms. Andreozzi is also working with the Jordan Institute in New Hampshire developing financing options for their emerging statewide energy efficiency program. Her specialty is the arrangement of municipal and commercial financings for energy-related equipment. Ms. Andreozzi is skilled in every aspect of the financing process, from origination to documentation, cash flow modeling and credit approval.

For ten years a Vice-President at Tucker Anthony Incorporated, Ms. Andreozzi was responsible for soliciting, structuring, and executing tax exempt bond and lease transactions in New England. Her borrowers included universities, water and sewer authorities, housing authorities, school districts, social services agencies and other non-profits. In that capacity, she provided multiple financing options to borrowers, analyzed pricing criteria related to bond insurance, credit enhancement, credit ratings, private vs. public offerings, fixed rate vs. variable rate structures, and bond vs. lease options. Previously, Ms. Andreozzi was a Senior Associate for the Merrill Lynch Capital Markets Public Finance Group and a systems programmer at the Federal Reserve Bank of Boston.

Ms. Andreozzi has been a featured speaker at housing and energy conferences nationwide. She holds a Bachelor in Arts in Mathematics from Boston University, and an MBA in Finance from Columbia University.

Tom Eckman

Mr. Eckman is the Conservation Manager for the Northwest Power and Conservation Council. He has been with the Council since 1982. His primary responsibilities include the assessment of the energy efficiency potential in the Pacific Northwest region, the integration of conservation resources into the resource portfolio for the region's electric utility system and the development of a regional plan for the development of energy efficiency. In his current position, he assists the Bonneville Power Administration, the region's public and private utilities and regulatory agencies develop, implement and evaluate energy efficiency programs as part of these entities integrated resource planning efforts. Mr. Eckman also chairs the Regional Technical Forum (RTF). The RTF was established by the Council at the request of Congress to develop standardized methods for verifying conservation savings and to track progress toward regional conservation, renewable resource and low-income weatherization goals. Mr. Eckman represents the Council in federal appliance standards proceedings.

In addition to is work for the Council Mr. Eckman provided staff assistance to the Northwest Energy Efficiency Alliance (NEEA) during its formation and initial years of operation. His work for the NEEA included the development of an overall market transformation strategy and economic analysis framework in addition to venture review and design.

Prior to joining the Council, Mr. Eckman was the Senior Energy Policy Analyst for the private consulting firm, Mathematical Sciences Northwest where his clients included the Pacific Northwest Utilities Conference Committee, Seattle City Light, the Montana Department of Natural Resources and Conservation. Before joining Mathematical Sciences Northwest Mr. Eckman was a Project Manager at Educational Research Systems, Inc. While there, he directed the development of Project Learning Tree©, a comprehensive K-12 environmental education curriculum that has received national recognition by both industry and environmental organizations. He served on the faculty of Central Washington University and as an adjunct professor of environmental studies for Western Washington University.

Mr. Eckman was the recipient of the Bonneville Power Administrator's Excellence Award for Outstanding Public Service in 2003, the American Council for and Energy Efficient Economy's Champion of Energy Efficiency Award in 2004 and the Northwest Energy Coalition's 2008 Headwaters Award.

Mr. Eckman graduated from Southern Illinois University with a BS in Forestry and MS in Environmental Studies.

Joel Freehling

Joel Freehling is the Manager of Triple Bottom Line Innovations at ShoreBank. Joel is responsible for developing innovative programs that further ShoreBank's mission of promoting financial services and information that positively impact the community and the environment. His primary focus is on the design and implementation of new financial products for the bank's customers that encourage energy efficiency and green development among homeowners, developers, community-based organizations and businesses in the Chicago, Cleveland and Detroit markets. Previously, Joel served as Deputy Director of Corporate Risk Management at ShoreBank Corporation and served as a small business lender in the bank's Business Banking unit. He earned a B.A. degree with honors from the University of Michigan and a M.A. from the University of Florida and Stony Brook University. Joel is a board member of the Midwest Energy Efficiency Alliance and serves on the finance committee of the Chicago Chapter of the U.S. Green Building Council. He also serves as a thesis advisor to the ABA Stonier School of Banking.

Chuck Goldman

Chuck Goldman is a staff scientist and the group leader of the Electricity Markets and Policy Group at the Lawrence Berkeley National Laboratory ("LBNL"). Chuck is LBNL's Principal Investigator for Electric Markets Technical Assistance activities sponsored by the Department of Energy's Office of Electric Transmission and Distribution. In that capacity, he provides technical assistance to state, regional and federal agencies, utilities, and ISOs on Demand Response policies, programs, and technologies; design and implementation of public purpose energy efficiency programs, analysis of industry and market trends in the energy services (ESCO) industry, dynamic pricing, analysis of retail energy services and markets, and regional planning and utility portfolio management. On behalf of the California Energy Commission Demand Response Research Center, he leads research on dynamic pricing/demand response and dynamic pricing program/tariff analysis and evaluation. On behalf of the Federal Energy Management Program, he also advises federal agencies and customers on opportunities to manage and reduce their energy costs through energy efficiency, peak load management, pricing, or purchasing retail energy services in competitive electricity markets. He has authored over 90 publications on various topics including demand response programs, technologies, and policies, market monitoring, impacts of restructuring on energy efficiency and renewables, role of energy service companies, competitive bidding for DSM resources, design and evaluation of innovative DSM programs, technical and market potential for energy efficiency, and utility resource planning. Chuck has worked at LBNL since 1981 and has a M.S. in Energy and Resources from the University of California, Berkeley. From 1997-2000, Chuck served as one of eight members on the California Board for Energy Efficiency, an advisory board to the California PUC, which oversaw and provided advice on energy efficiency programs and policies, market transformation strategies, and administration for energy-efficiency programs with an annual budget of ~$275 million per year. He also serves as a member of the National Association of Energy Service Company's Accreditation Committee for ESCOs.

About Lawrence Berkeley National Laboratory

Lawrence Berkeley National Laboratory is part of the national laboratory system supported by the U.S. Department of Energy through its Office of Science. It is managed by the University of California (UC) and is charged with conducting unclassified research across a wide range of scientific disciplines. Located on a 200 acre site in the hills above the UC Berkeley campus, LBNL employs approximately 4,000 scientists, engineers, support staff and students. Its budget for 2008 was approximately $600 million. It was founded in 1931 by Ernest Orlando Lawrence, a UC Berkeley physicist who won the 1939 Nobel Prize in physics for his invention of the cyclotron, a circular particle accelerator that opened the door to high-energy physics.

Michael Messenger

Mr. Messenger is a Senior Principal Consultant at Itron, specializing in the design and evaluation of energy efficiency and demand response programs and the development of policy frameworks and funding mechanisms to support them. Prior to joining Itron, Mr. Messenger served for over twenty five years at the California Energy Commission as the lead analyst responsible for developing appliance efficiency standard in the 1980's, Chief of Evaluation for Energy Efficiency and Demand Response programs in the 1990's, and Policy Advisor to many different Energy Commissioners. He has just returned from working for a year at the Ontario Power Authority where he helped develop an evaluation framework and protocols for energy efficiency programs.

Mr. Messenger has worked in energy efficiency and evaluation field since 1978, and is a nationally recognized expert in the field. His recent work ranges from the evaluation of dynamic pricing tariffs and to developing business cases for advanced metering systems being considered by electric utilities. He is also responsible for the development of evaluation protocols for evaluating energy efficiency and demand response programs in both California and Ontario. During the 1980's he developed statewide and later national appliance efficiency standards for refrigerators and central air conditioners. In the 1990's he worked on the evaluation of utility efficiency programs and developed ten year energy savings goals for each of California's investor owned utilities. After the turn of the century, Mike was the project manager for several demand response programs, developed energy savings goals for all of California's utilities and the state as a whole and served on various program planning and evaluation sub committees. Mike has a Bachelor of Science from Princeton University and a Master of Science from the University of California at Berkeley.

Nancy O'Brien

Nancy O'Brien is the Program Manager of Energy Finance Solutions at the Wisconsin Energy Conservation Corporation (WECC).

The energy loan program, marketed as Energy Finance Solutions, offers convenient financing options for consumers looking to make energy efficient and renewable energy improvements in their homes.

As program manager, Nancy ensures the quality of overall program delivery. She is responsible for maintaining and attracting new clients and serves as the primary point of contact for sponsors in the design, development, and administration of successful financing programs. In addition, Nancy provides training and education workshops for contractors, customers, and sponsors.

Nancy earned a bachelor of science from Edgewood College, with a major in business management and a minor in industrial/organizational psychology.

Snuller Price

Mr. Price is a Partner of Energy and Environmental Economics, Inc. or “E3.” He co-heads the transmission and distribution (T&D) planning business at E3. He has 10 years of experience supporting clients with financial and regulatory analysis, due diligence support of T&D capital projects, and utility capital planning and budgeting process changes to meet regulatory or strategic corporate goals. Snuller is a well-recognized expert in the assessment of distributed resources, including distributed generation, co-generation, renewable energy, load management programs, and demand-side management. He teaches the seminar, 'Incorporating Distributed Generation into T&D Planning,' and is the lead developer of several financial and due diligence tools that facilitate utility evaluation of distributed generation.

Mr. Price holds an M.S. in Engineering Economic Systems and Operations Research from Stanford University, and a BA in Economics and a BS in Engineering from Swarthmore College

Rich Sedano

Richard Sedano is a Director of The Regulatory Assistance Project. Mr. Sedano is the facilitator of the Mid-Atlantic Distributed Resource Initiative, the Midwest Demand Resources Initiative, and the Pacific Northwest Demand Response Project. Recently, he has worked with a collaborative in Arkansas and Oklahoma to launch energy efficiency programs, with members and stakeholders of the Ozone Transport Commission to develop utility policies to address regional ozone policy, and the stakeholders developing the National Action Plan for Energy Efficiency. Prior to joining RAP in 2001, Mr. Sedano served as Commissioner of the Vermont Department of Public Service (VDPS) for nine years, and in staff positions for seven more. The VDPS represents utility consumers in all regulatory matters, and is the state's energy office and consumer advocate. Mr. Sedano served as chair of the National Association of State Energy Officials from 1998-2000. He is currently a member of the Board of Directors of Northeast Energy Efficiency Partnerships, the ISO-New England Environmental Advisory Group, the investment committee of the Vermont Clean Energy Development Fund, EVermont (an alternative transportation vehicle consortium), and the Energy Team for the City of Montpelier. He was a member of the Task Force on Reliability to the U.S. Secretary of Energy's Advisory Committee from 1997-1998, and a member of the Advisory Committee to the ISO-New England Board of Directors from 1999-2003. Mr. Sedano received his Sc.B. in Engineering from Brown University, and his M.S. in Engineering Management from Drexel University.

About the Regulatory Assistance Project

The Regulatory Assistance Project (RAP) is a non-profit organization, formed in 1992 by experienced utility regulators, that provides research, analysis, and educational assistance to public officials on electric utility regulation. RAP workshops cover a wide range of topics including electric utility restructuring, power sector reform, renewable resource development, the development of efficient markets, performance-based regulation, demand-side management, and green pricing. RAP also provides regulators with technical assistance, training, and policy research and development. RAP has worked with public utility regulators and energy officials in 45 states, Washington D.C., Brazil, India, Namibia, China, Egypt, and a number of other countries. RAP principals and associates have also written and spoken extensively on energy policy and regulation. RAP *IssuesLetters,* published quarterly, and RAP's many in-depth reports and conference presentations provide serious and thoughtful discussion of cutting-edge issues in industry restructuring (e.g. market power, stranded costs, system benefits charges, customer choice, and consumer protection), and other current topics (e.g. resource portfolio management, policies for distributed generation and demand-side resources, distribution system regulation, reliability and risk management, rate design, electrical energy security, and environmental protection).

Mike Sherman

Mike Sherman is the Director of Energy Efficiency Programs in the Massachusetts Department of Energy Resources Division of Energy Efficiency. His responsibilities include planning, evaluation and oversight of about $125 million electric and $25 million gas and electric energy efficiency programs, working through a long term collaborative process utility and non utility parties. DOER has substantial oversight and regulatory responsibility for energy efficiency programs, working closely with the state's utility commission. Under the Green Communities Act, passed in July 2008, the state will double to triple efficiency expenditures over the next several years under the requirement to acquire all gas and electric energy efficiency that is less than the cost of supply.

Mike began his energy efficiency career in 1977, serving 13 years as policy director for Massachusetts Low Income Weatherization Assistance Program. Following that he worked for Xenergy, his own company Sherman Energy Associates and Peregrine Energy Group. A Jack of All Trades, Mike's work has included planning, process and impact evaluation, market research, facilitation and energy policy development. He has a B.A. in History from Brooklyn College and a Master's in Community Organizing from Boston College.

Mike Wickenden

Mike Wickenden came to work with energy efficiency after a career of teaching math. With Masters in both Statistics and Education, he began working for an independent multi-state electric utility creating databases for their energy efficiency programs and overseeing their DSM evaluation. He was promoted to manage the implementation of their DSM Vermont programs and, consequently, helped craft the agreement to create Efficiency Vermont. With the creation of Efficiency Vermont came the opportunity to be the Energy Efficiency Utility Contract Administrator, a position he has held for seven years.

His responsibilities include being the Chair of the Technical Advisory Group, the entity providing oversight of the Technical Reference Manual. As chair, he participates in the review of efficiency measures, helps to resolve disputes, and keeps the process efficient and expedient. He is closely involved with all aspects of verification. He makes recommendations to the VT Public Service Board concerning EVT's annual verification results. He reviews the DPS's 3 year verification plan and final reports and makes Evaluation budget and study recommendations.